

# CURRICULUM VITAE

**Majid Safa, Ph.D.**

## Current Appointment

Associate Professor, Department of Hematology and Blood Banking, Faculty of Allied Medicine, Iran University of Medical Sciences

Joint appointment in Department of Tissue Engineering, Faculty of Advanced Technologies in Medicine, Iran University of Medical Sciences

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## Education and Training

1999-2001	A.D. Medical Laboratory Sciences Shiraz University of Medical Sciences, Shiraz, Iran
2001-2003	B.Sc. Medical Laboratory Sciences Esfahan University of Medical Sciences, Esfahan, Iran
2003-2006	M.Sc. Laboratory Hematology and Blood banking Tarbiat Modares University, Tehran, Iran
2006-2011	Ph.D. Laboratory Hematology and Blood banking Tehran University of Medical Sciences, Tehran, Iran
3/2010-11/2010	Visiting Ph.D. Student, Department of Stem Cell Biology University Medical Center Groningen, Groningen, Netherlands

## Honors and Awards

Ranked first position in the countrywide PhD entrance exam of Hematology and Blood Banking, 2006

Second prize winner (as student researcher) in Paramedical Sciences, 16th Razi Research Festival for Medical Sciences, Tehran, Iran, 2011

Prize winner of the 14th Avicenna Festival, Tehran University of Medical Sciences, Tehran, Iran, 2013

Young investigator award of academic members of Iran University of Medical Sciences, Tehran, Iran, 2015

Young investigator award of academic members of Iran University of Medical Sciences, Tehran, Iran, 2016

## Paper Publications

- Tabibian S, Shiravand Y, Shams M, **Safa M**, Gholami MS, Heydari F, Ahmadi A, Rashidpanah J, Dorgalaleh A. A Comprehensive Overview of Coagulation Factor V and Congenital Factor V Deficiency. *Semin Thromb Hemost.* 45(5):523-543. (2019)
- Sheikh-Zeineddini N, Bashash D, Safaroghli-Azar A, Riyahi N, Shabestari RM, Janzamin E, **Safa M**. Suppression of c-Myc using 10058-F4 exerts caspase-3-dependent apoptosis and intensifies the antileukemic effect of vincristine in pre-B acute lymphoblastic leukemia cells. *J Cell Biochem.* 120(8):14004-14016. (2019)
- Dorgalaleh A, Tabibian S, Shams M, Majid G, Naderi M, Casini A, Tavasoli B, Gheidishiran M, Daneshi M, **Safa M\***. A Unique Factor XIII Mutation in Southeastern Iran with an Unexpectedly High Prevalence: Khash Factor XIII. *Semin Thromb Hemost.* 45(1):43-49. (2019)
- Sadremomtaz A, Mansouri K, Alemzadeh G, **Safa M**, Rastaghi AE, Asghari SM. Dual blockade of VEGFR1 and VEGFR2 by a novel peptide abrogates VEGF-driven angiogenesis, tumor growth, and metastasis through PI3K/AKT and MAPK/ERK1/2 pathway. *Biochim Biophys Acta Gen Subj.* 1862(12):2688-2700 (2018)
- Manafi Shabestari R, Alikarami F, Bashash D, Paridar M, **Safa M\***. Overexpression of MiR-138 Inhibits Cell Growth and Induces Caspase-mediated Apoptosis in Acute Promyelocytic Leukemia Cell Line. *Int J Mol Cell Med.* Winter;7(1):24-31. (2018)
- RITA induces apoptosis in p53-null K562 leukemia cells by inhibiting STAT5, Akt, and NF- $\kappa$ B signaling pathways. Mobaraki RN, Karimi M, Alikarami F, Farhadi E, Amini A, Bashash D, Paridar M, Kokhaei P, Rezvani MR, Kazemi A, **Safa M\***. *Anticancer Drugs.* 29(9):847-853. (2018)
- Saberi Firouzi S, Namazi Sarvestani N, Bakhtiarian A, Ghazi Khansari M, Karimi MY, Ranjbar A, **Safa M**, Hosseini A. Sildenafil protective effects on high glucose-induced neurotoxicity in PC12 cells: the role of oxidative stress, apoptosis, and inflammation pathways in an in vitro cellular model for diabetic neuropathy. *Neurol Res.* 40(8):624-636. (2018)

- Athari Nik Azm S, Djazayeri A, **Safa M**, Azami K, Ahmadvand B, Sabbaghziarani F, Sharifzadeh M, Vafa M. Lactobacilli and bifidobacteria ameliorate memory and learning deficits and oxidative stress in  $\beta$ -amyloid (1-42) injected rats. *Appl Physiol Nutr Metab.* 43(7):718-726. (2018)
- Bayati S, Razani E, Bashash D, Safaroghli-Azar A, **Safa M**, Ghaffari SH. Antileukemic effects of neurokinin-1 receptor inhibition on hematologic malignant cells: a novel therapeutic potential for aprepitant. *Anticancer Drugs.* 29(3):243-252. (2018)
- Neshasteh-Riz A, Zeinizade E, **Safa M**, Mousavizadeh K. Cabazitaxel inhibits proliferation and potentiates the radiation response of U87MG glioblastoma cells. *Cell Biol Int.* 42(7):815-822. (2018)
- Dehdashtian E, Mehrzadi S, Yousefi B, Hosseinzadeh A, Reiter RJ, **Safa M**, Ghaznavi H, Naseripour M. Diabetic retinopathy pathogenesis and the ameliorating effects of melatonin; involvement of autophagy, inflammation and oxidative stress. *Life Sci.* 193:20-33. Review. (2018)
- Gheidishahran M, Dorgalaleh A, Tabibian S, Shams M, Sanei Moghaddam E, Khosravi S, Naderi M, Kahraze S, Lotfi F, Kazeme A, **Safa M\***. Molecular diagnosis of factor XIII deficiency, data from comprehensive coagulation laboratory in Iran. *Blood Coagul Fibrinolysis.* 29(1):87-91. (2018)
- Bashash D, Delshad M, Safaroghli-Azar A, **Safa M**, Momeny M, Ghaffari SH. Novel pan PI3K inhibitor-induced apoptosis in APL cells correlates with suppression of telomerase: An emerging mechanism of action of BKM120. *Int J Biochem Cell Biol.* 91(Pt A):1-8 (2017)
- Alikarami F, **Safa M\***, Faranoush M, Hayat P, Kazemi A. Inhibition of DNA-PK enhances chemosensitivity of B-cell precursor acute lymphoblastic leukemia cells to doxorubicin. *Biomed Pharmacother.* 94:1077-1093. (2017)
- **Safa M\***, Jafari L, Alikarami F, Manafi Shabestari R, Kazemi A. Indole-3-carbinol induces apoptosis of chronic myelogenous leukemia cells through suppression of STAT5 and Akt signaling pathways. *Tumor Biology.* 39(6) (2017)
- Manafi Shabestari R, **Safa M\***, Banan M, Kazemi A. Cyclic AMP-Induced p53 Destabilization is Independent of CREB in Pre-B Acute Lymphoblastic Leukemia Cells. *Int J Mol Cell Med.* 5(4):220-228 (2017)
- Bashash D, Safaroghli-Azar A, Dadashi M, **Safa M**, Momeny M, Ghaffari SH. Anti-tumor activity of PI3K- $\delta$  inhibitor in hematologic malignant cells: Shedding new light on resistance to Idelalisib. *Int J Biochem Cell Biol.* 85:149-158 (2017)
- Mehrzadi S, **Safa M**, Kamrava SK, Darabi R, Hayat P, Motevalian M. Protective mechanisms of melatonin against hydrogen peroxide induced toxicity in human bone-marrow derived mesenchymal stem cells. *Can J Physiol Pharmacol.* doi: 10.1139/cjpp-2016-0409 (2017)

- Athari Nik Azm S, Vafa M, Sharifzadeh M, **Safa M**, Barati A, Mirshafiey A. Effects of M2000 (D-Mannuronic Acid) on Learning, Memory Retrieval, and Associated Determinants in a Rat Model of Alzheimer's Disease. *Am J Alzheimers Dis Other Demen*, 32(1):12-21 (2017)
- Shabestari RM, **Safa M\***, Alikarami F, Banan M, Kazemi A. CREB knockdown inhibits growth and induces apoptosis in human pre-B acute lymphoblastic leukemia cells through inhibition of prosurvival signals. *Biomed Pharmacother*, 87:274-279 (2017)
- Farhadi E, **Safa M\***, Sharifi AM, Bashash D. PRIMA-1 induces caspase-mediated apoptosis in acute promyelocytic leukemia NB4 cells by inhibition of nuclear factor- $\kappa$ B and downregulation of Bcl-2, XIAP, and c-Myc. *Anticancer Drugs*. 28(1):51-58. (2017)
- Shahbazi A, **Safa M\***, Alikarami F, Kargozar S, Asadi M.H, Joghataei M.T, Soleimani M. Rapid Induction of Neural Differentiation in Human Umbilical Cord Matrix Mesenchymal Stem Cells by cAMP-elevating Agents. *Int J Mol Cell Med* 5(3): 167-177 (2016)
- Najafi A, Asadi E, Moawad AR, Mikaeili S, Amidi F, Adutwum E, **Safa M**, Sobhani AG. Supplementation of freezing and thawing media with brain-derived neurotrophic factor protects human sperm from freeze-thaw-induced damage. *Fertil Steril*, 0282(16): 62794-2 (2016)
- Farhadi E, Zaker F, **Safa M**, Rezvani MR. miR-101 sensitizes K562 cell line to imatinib through Jak2 downregulation and inhibition of NF- $\kappa$ B target genes. *Tumor Biology*, 37(10):14117-14128 (2016)
- Bagher Z, Ebrahimi-Barough S, Azami M, **Safa M**, Joghataei MT. Cellular activity of Wharton's Jelly-derived mesenchymal stem cells on electrospun fibrous and solvent-cast film scaffolds. *Journal of Biomedical Materials Research Part A*. 104(1): 218-26 (2016)
- Mikaeili S, Rashidi BH, **Safa M**, Najafi A, Sobhani A, Asadi E, Abbasi M. Altered FoxO3 expression and apoptosis in granulosa cells of women with polycystic ovary syndrome. *Archives of Gynecology and Obstetrics*. 294(1):185-92. (2016)
- Fatemi A, **Safa M**, Kazemi A. MST-312 induces G2/M cell cycle arrest and apoptosis in APL cells through inhibition of telomerase activity and suppression of NF- $\kappa$ B pathway. *Tumor Biology*, 36(11):8425-37 (2015)
- **Safa M\***, Tavasoli B, Manafi R, Kiani F, Kashiri M, Ebrahimi S, Kazemi A. Indole-3-carbinol suppresses NF- $\kappa$ B activity and stimulates the p53 pathway in pre-B acute lymphoblastic leukemia cells. *Tumor Biology*. 36:3919-3930 (2015)
- Hosseini A, Sharifi AM, Abdollahi M, Najafi R, Baeri M, Rayegan S, Cheshmehnoor J, Hassani S, Bayrami Z, **Safa M**. Cerium and yttrium oxide nanoparticles against lead-

induced oxidative stress and apoptosis in rat hippocampus. *Biol Trace Elem Res*, 164(1):80-9 (2015)

- Ghorbani A, Jeddi-Tehrani M, Saidpour A, **Safa M**, Bayat AA, Zand H. PI3K/AKT and Mdm2 activation are associated with inhibitory effect of cAMP increasing agents on DNA damage-induced cell death in human pre-B NALM-6 cells. *Archives of Biochemistry and Biophysics*, 566 (2015) 58–66 (2015)
- Aminzadeh , A. R. Dehpour , **M. Safa** , S. Mirzamohammadi , A. M. Sharifi. Investigating the Protective Effect of Lithium Against High Glucose-Induced Neurotoxicity in PC12 Cells: Involvements of ROS, JNK and P38 MAPKs, and Apoptotic Mitochondria Pathway. *Cellular and Molecular Neurobiology*, 34(8), 1143-1150 (2014)
- **Safa M\***, Mousavizadeh K, Noori S, Pourfathollah A, Zand H. cAMP protects acute promyelocytic leukemia cells from arsenic trioxide-induced caspase-3 activation and apoptosis. *European Journal of Pharmacology*, 736: 115-23 (2014)
- Kazemi A, **Safa M\***, Shahbazi A. RITA enhances chemosensitivity of pre-B ALL cells to doxorubicin by inducing p53-dependent apoptosis. *Hematology*, 16(4): 225-231 (2011)
- **Safa M\***, Kazemi A, Zaker F, Razmkhah F. Cyclic AMP-induced p53 destabilization is independent of EPAC in pre-B acute lymphoblastic leukemia cells in vitro. *Journal of Receptors and Signal Transduction*, 31(3): 256-63 (2011)
- **Safa M**, Zand H, Mousavizadeh K, Kazemi A, Bakhshayesh M, Hayat P. Elevation of cyclic AMP causes an imbalance between NF-kappaB and p53 in NALM-6 cells treated by doxorubicin. *FEBS Letters*, 584(15):3492-8 (2010)
- **Safa M**, Kazemi A, Zand H, Azarkeivan A, Zaker F, Hayat P. Inhibitory role of cAMP on doxorubicin-induced apoptosis in pre-B ALL cells through dephosphorylation of p53 serine residues. *Apoptosis*, 15(2):196-203 (2010)
- Soltanpour M, Soheili Z, Pourfathollah A, Samiei S, Meshkani R, **Safa M**, et al. The A1298C Mutation in Methylenetetrahydrofolate Reductase Gene and Its Association With Idiopathic Venous Thrombosis in an Iranian Population. *LabMedicine*, 42: 213-216 (2010)
- Gill P, Forouzandeh M, Eshraghi N, Ghalami M, **Safa M**, NooriDalooi MR. Detection of four  $\beta$ -thalassemia point mutations in Iranians using a PCR-ELISA genotyping system. *Molecular and Cellular Probes*, 22(2): 103-109 (2008)

- Soltanpour MS, Soheili Z, Pourfathollah A.A, Samiei S, Meshkani R, Mohammad Reza Deyhim, **Safa M**, Ataei Z. The Association between Common C677T Mutation in Methylenetetrahydrofolate Reductase Gene and Risk of venous thrombosis in an Iranian population. *LabMedicine*, 39(2): 5-8 (2008)
- **Safa M**, Forouzandeh M, Pourfathollah AA, Gill P, Rasae MJ, Yari F, Shahbazi A, Soltanpour MS., Mayor N. High resolution allotyping of four alleles of HLA-DRB1\*01 group in Iranians using reverse-SSOPH assay in comparison with DNA sequencing and PCR-SSP. *Journal of Biological Sciences*, 8(2): 392-397 (2008)

### Teaching Experience

- Basic and advanced hematology
- Principles of cell and gene therapy
- Immunohematology and blood banking
- Molecular biology and bioinformatics
- Cell culture

### Books

**Safa M**, Nasiri H: Genetics of Blood Disorders (translation into Farsi), Tarbiat Modares University and Iranian Blood Transfusion Organization, 2004 (ISBN: 964-2547-13-9)

Chegeni R, **Safa M**: Basic Hematology (in Farsi) , 2006 (ISBN: 964-06-5598-8)

### Abstracts in International Congresses

- Activation of cAMP signaling inhibits DNA damage-induced apoptosis in pre-B ALL cells through abrogation of p53 accumulation. The 9th International Congress of Hematology and Medical Oncology of Iran, November 2009, Tehran, Iran
- Activation of cAMP signaling inhibits chemotherapeutic-induced p53-mediated apoptosis in wild-type p53 acute lymphoblastic leukemia cells. The 15th Congress of the European Hematology Association (EHA), June 2010, Barcelona, Spain.
- Association of Wild-type p53-induced phosphatase 1 (Wip1) and BCR-ABL expression in chronic myeloid leukemia. Annual meeting of American Society for Clinical Pathology (ASCP), October 2010, San Francisco, CA. USA
- DNA damage-induced post-translational modifications of p53 decreased upon activation of cAMP signaling in pre-B ALL cells. 16th Congress of the European Hematology Association, June 2011, London, United Kingdom

- Elevation of cAMP levels inhibits arsenic-induced apoptosis in acute promyelocytic leukemia cells. 18th Congress of the European Hematology Association, June 2013, Stockholm, Sweden
- Inhibition of DNA-PK enhances chemosensitivity of B-cell precursor acute lymphoblastic leukemia cells to doxorubicin. 23rd Congress of the European Hematology Association, June 2018, Stockholm, Sweden

### **Experimental Skills**

- Extraction and purification of DNA, RNA, Protein
- PCR and PCR-based analysis (PCR-RFLP, ARMS-PCR, RT-PCR, Quantitative Real-time PCR), Primer design for PCR and Real-time PCR
- Western blot analysis, Reverse dot blot analysis, ELISA
- Molecular cloning, plasmid construction
- Site-directed mutagenesis, Reporter gene assays (Luciferase and LacZ assays)
- siRNA and shRNA transfection, lentivirus production in 293T cells
- miRNA profiling, Gene expression profiling
- Flow cytometry
- Cell culture

### **Language:**

- Farsi (native), English (fluent)